

National Science Foundation Graduate Research Fellowship Program Previous Research and Personal Statement Essay Tips

These essays work together to demonstrate: your ability to successfully undertake your proposed project.
your potential to be a leader in science and/or education.

Like your research proposal, they must address the intellectual merit and broader impact criteria.

Previous Research:

This essay should show readers how well prepared you are to conduct research and how likely you are to complete your proposed project. You should give concrete examples of experiences in which you demonstrated characteristics like ingenuity, resourcefulness, determination, flexibility, reliability, etc.

Possible topics:

- Experience on faculty-led research projects, research assistantships, leadership on student research teams
- Experience during internships, field research, study abroad, or employment
- Experience in coursework, lab work, or scholarship.

For each experience describe your role, your contribution, the outcomes, *what you learned*, and *skills you gained*.

- Describe how the experience will be useful to your future research, and how it has influenced your perspective and/or determination.
- Describe how the experience helped you improve your analytical skills, self-direction, time management, creativity, resourcefulness, etc.
- Describe the methods or technical skills acquired: research design, data collection, field research, data analysis, data protection, responsible conduct of research, grant proposal writing, presentation skills, etc.

Remember that reviewers are looking for students who are highly engaged, will encourage diversity, and will advance scientific knowledge that benefits society. You should demonstrate cultural competence, respect for other disciplines and other people, global awareness, and a willingness to integrate science and education.

Possible topics:

- Research with international faculty and/or on interdisciplinary research projects.
- Reaching diverse audiences through teaching, scholarship, presentations, public outreach, media, etc.
- Leadership in field organizations, membership in professional societies, attendance at conferences.

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If appears that your proposed research plan would be a challenge given your current ability, you should demonstrate your eagerness to learn the skills necessary to complete it. Give examples of your willingness to seek out and accept feedback and explain your plans to gain the necessary training.

Steps to writing your Previous Research Essay:

- 1) Brainstorm notes about any possible related experience.
- 2) Reflect on these experiences and decide which best demonstrate your knowledge, skills, and the characteristics that demonstrate potential. Reflect on which experiences best reflect the intellectual merit and broader impact criteria.
- 3) Choose a writing structure. You might describe your experiences chronologically, or write about your most meaningful experiences first. You might also list skills you have acquired, and give a concrete example of how you applied that skill.
- 4) Write a draft of your essay. Don't be initially concerned if you go over the 2-page limit – it is generally easier and more effective to cut material than to add it. After you've included all your relevant experiences, try to identify an overall theme and use this to create a compelling introductory paragraph.

Questions to ask of your draft:

- Did you provide evidence of your intellectual merit and broader impact with concrete examples?
- Have you accurately represented your research experiences?
- Is your past experience connected with your future research?
- Will a reader believe that you have the necessary skills and drive to undertake your proposed research?

Personal Statement:

This essay should complement your research proposal and previous research statement by demonstrating your potential in a more personal manner: your motivations, your goals, your abilities, your character.

Ideas to address:

Intellectual Merit:

- How motivated are you to pursue your studies, and this project? What motivates you?
- What efforts have you undertaken to improve your skills and knowledge, inside and outside the classroom?
- Can you demonstrate a willingness to challenge assumptions, test new ideas, learn from mistakes, overcome barriers, think creatively, find resources, act independently, etc.?
- What qualities do you possess that will make you a leader in your field?

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Broader Impact:

- Do you demonstrate an understanding of local and global challenges, and a passion to make a difference in the lives of people in the US and abroad?
- What are your career aspirations, and how will you contribute to your field?
- Do you demonstrate leadership qualities as well as the ability to be a collaborative team member?
- What are/will be your personal contributions to society?

General:

- What key experiences made you who you are today?
- What are you passionate about? Why is your research important to you?
- How have you helped others?
- How will you adapt to advances in the future?

Steps to writing your Personal Essay:

- 1) Create a list or outline of the key ideas to cover in your essay: what are your strengths?
- 2) Think of concrete examples that demonstrate these ideas.
- 3) Draft paragraphs that illustrate the characteristics that demonstrate your potential.
- 4) Create a compelling introduction and conclusion that bring your ideas full circle.

Questions to ask of your draft:

- Does this essay reflect the real you? Does it feel sincere?
- Is the writing clear, compelling, and detailed?
- What sets your essay apart from other applications?
- Have you demonstrated your intellectual merit and broader impact in a way that matches NSF's aims?

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This handout was adapted from GRFP learning materials created by Dr. Robin G. Walker, University of Missouri - Columbia.